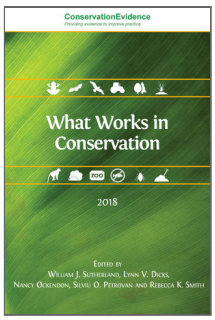

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2.10 Threat: Pollution

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2.10 Threat: Pollution

2.10.1 Domestic and urban waste water

Based on the collated evidence, what is the current assessment of the effectiveness of interventions for domestic and urban waste water?	
Unknown effectiveness (limited evidence)	• Change effluent treatments of domestic and urban waste water

Unknown effectiveness (limited evidence)

Change effluent treatments of domestic and urban waste water

We found no evidence for the effects on bats of changing effluent treatments of domestic and urban waste water discharged into rivers. One replicated, site comparison study in the UK found that foraging activity over filter bed sewage treatment works was higher than activity over active sludge systems. *Assessment: unknown effectiveness (effectiveness 40%; certainty 30%; harms 30%).*

http://www.conservationevidence.com/actions/1014

2.10.2 Agricultural and forestry effluents

Based on the collated evidence, what is the current assessment of the effectiveness of interventions for agricultural and forestry effluents?	
No evidence found (no assessment)	• Introduce legislation to control use of fertilizers, insecticides and pesticides • Change effluent treatments used in agriculture and forestry

No evidence found (no assessment)

We have captured no evidence for the following interventions:

- Introduce legislation to control use of fertilizers, insecticides and pesticides
- Change effluent treatments used in agriculture and forestry

2.10.3 Light and noise pollution

Based on the collated evidence, what is the current assessment of the effectiveness of interventions for light and noise pollution?	
Likely to be beneficial	• Leave bat roosts, roost entrances and commuting routes unlit • Minimize excess light pollution
No evidence found (no assessment)	• Restrict timing of lighting • Use low pressure sodium lamps or use UV filters • Impose noise limits in proximity to roosts and bat habitats

Likely to be beneficial

Leave bat roosts, roost entrances and commuting routes unlit

Two replicated studies in the UK found more bats emerging from roosts or flying along hedgerows when left unlit than when illuminated with white lights or streetlamps. *Assessment: likely to be beneficial (effectiveness 80%; certainty 50%; harms 0%).*

http://www.conservationevidence.com/actions/1017

Minimize excess light pollution

One replicated, randomized, controlled study in the UK found that bats avoided flying along hedgerows with dimmed lighting, and activity levels were lower than along unlit hedges. We found no evidence for the effects of reducing light spill using directional lighting or hoods on bats. *Assessment: likely to be beneficial (effectiveness 65%; certainty 50%; harms 0%).*

http://www.conservationevidence.com/actions/1018

No evidence found (no assessment)

We have captured no evidence for the following interventions:

- Restrict timing of lighting
- Use low pressure sodium lamps or use UV filters
- Impose noise limits in proximity to roosts and bat habitats

2.10.4 Timber treatments

Based on the collated evidence, what is the current assessment of the effectiveness of interventions for timber treatments?	
Beneficial	• Use mammal safe timber treatments in roof spaces
Likely to be ineffective or harmful	• Restrict timing of treatment

Beneficial

Use mammal safe timber treatments in roof spaces

Two controlled laboratory studies in the UK found commercial timber treatments (containing lindane and pentachlorophenol) to be lethal to bats, but found alternative artificial insecticides (including permethrin) and three other fungicides did not increase bat mortality. Sealants over timber treatments had varying success. *Assessment: likely to be beneficial (effectiveness 90%; certainty 80%; harms 0%).*

http://www.conservationevidence.com/actions/1022

Likely to be ineffective or harmful

Restrict timing of treatment

One controlled laboratory experiment in the UK found that treating timber with lindane and pentachlorophenol 14 months prior to exposure by bats increased survival time but did not prevent death. Bats in cages treated with permethrin survived just as long when treatments were applied two months or 14 months prior to exposure. *Assessment: Likely to be ineffective or harmful (effectiveness 5%; certainty 55%; harms 50%).*

http://www.conservationevidence.com/actions/1023